FEDERAL TRADE COMMISSION

[File No. 181 0205]

Broadcom Incorporated; Analysis of Agreement Containing Consent Order to Aid Public Comment

AGENCY: Federal Trade Commission.

ACTION: Proposed consent agreement; request for comment.

SUMMARY: The consent agreement in this matter settles alleged violations of federal law prohibiting unfair methods of competition. The attached Analysis of Agreement Containing Consent Order to Aid Public Comment describes both the allegations in the complaint and the terms of the consent order -- embodied in the consent agreement -- that would settle these allegations.

DATES: Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested parties may file comments online or on paper by following the instructions in the Request for Comment part of the **SUPPLEMENTARY INFORMATION** section below. Please write "Broadcom Incorporated; File No. 181 0205" on your comment, and file your comment online at *https://www.regulations.gov* by following the instructions on the web-based form. If you prefer to file your comment on paper, mail your comment to the following address: Federal Trade Commission, Office of the Secretary, 600 Pennsylvania Avenue NW, Suite CC-5610 (Annex D), Washington, DC 20580, or deliver your comment to the following address: Federal Trade Commission, Office of the Secretary, Constitution Center, 400 7th Street SW, 5th Floor, Suite 5610 (Annex D), Washington, DC 20024.

FOR FURTHER INFORMATION CONTACT: Kathleen Clair (202-326-3435), Bureau of Competition, Federal Trade Commission, 600 Pennsylvania Avenue NW, Washington, DC 20580.

SUPPLEMENTARY INFORMATION: Pursuant to Section 6(f) of the Federal Trade Commission Act, 15 U.S.C. 46(f), and FTC Rule 2.34, 16 CFR 2.34, notice is hereby given that the above-captioned consent agreement containing a consent order to cease and desist, having been filed with and accepted, subject to final approval, by the Commission, has been placed on the public record for a period of thirty (30) days. The following Analysis to Aid Public Comment describes the terms of the consent agreement and the allegations in the complaint. An electronic copy of the full text of the consent agreement package can be obtained at https://www.ftc.gov/news-events/commission-actions.

You can file a comment online or on paper. For the Commission to consider your comment, we must receive it on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Write “Broadcom Incorporated; File No. 181 0205” on your comment. Your comment—including your name and your state—will be placed on the public record of this proceeding, including, to the extent practicable, on the *https://www.regulations.gov* website.

Due to the COVID-19 pandemic and the agency’s heightened security screening, postal mail addressed to the Commission will be subject to delay. We strongly encourage you to submit your comments online through the *https://www.regulations.gov* website.

If you prefer to file your comment on paper, write “Broadcom Incorporated; File No. 181 0205” on your comment and on the envelope, and mail your comment to the following address: Federal Trade Commission, Office of the Secretary, 600 Pennsylvania Avenue NW, Suite CC-5610 (Annex D), Washington, DC 20580; or deliver your comment to the following address: Federal Trade Commission, Office of the Secretary, Constitution Center, 400 7th Street SW, 5th Floor, Suite 5610 (Annex D), Washington, DC 20024. If possible, submit your paper comment to the Commission by courier or overnight service.

Because your comment will be placed on the publicly accessible website at *https://www.regulations.gov*, you are solely responsible for making sure your comment does not include any sensitive or confidential information. In particular, your comment should not include sensitive personal information, such as your or anyone else's Social Security number; date of birth; driver's license number or other state identification number, or foreign country equivalent; passport number; financial account number; or credit or debit card number. You are also solely responsible for making sure your comment does not include sensitive health information, such as medical records or other individually identifiable health information. In addition, your comment should not include any "trade secret or any commercial or financial information which . . . is privileged or confidential"—as provided by Section 6(f) of the FTC Act, 15 U.S.C. 46(f), and FTC Rule 4.10(a)(2), 16 CFR 4.10(a)(2)—including in particular competitively sensitive information such as costs, sales statistics, inventories, formulas, patterns, devices, manufacturing processes, or customer names.

Comments containing material for which confidential treatment is requested must be filed in paper form, must be clearly labeled "Confidential," and must comply with FTC Rule 4.9(c). In particular, the written request for confidential treatment that accompanies the comment must include the factual and legal basis for the request, and must identify the specific portions of the comment to be withheld from the public record. *See* FTC Rule 4.9(c). Your comment will be kept confidential only if the General Counsel grants your request in accordance with the law and the public interest. Once your comment has been posted on the *https://www.regulations.gov* website—as legally required by FTC Rule 4.9(b)—we cannot redact or remove your comment from that website, unless you submit a confidentiality request that meets the requirements for such treatment under FTC Rule 4.9(c), and the General Counsel grants that request.

Visit the FTC Website at http://www.ftc.gov to read this Notice and the news release describing the proposed settlement. The FTC Act and other laws that the Commission administers permit the collection of public comments to consider and use in this proceeding, as appropriate. The Commission will consider all timely and responsive public comments that it receives on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. For information on the Commission's privacy policy, including routine uses permitted by the Privacy Act, see https://www.ftc.gov/site-information/privacy-policy.

Analysis of Agreement Containing Consent Order to Aid Public Comment

I. Introduction

The Federal Trade Commission has accepted, subject to final approval, a consent agreement with Broadcom Incorporated. Broadcom designs, develops, and sells semiconductorcomponents for a wide range of computing and telecommunications applications, including for set-top boxes ("STBs") and broadband devices such as modems. (STBs and broadband devices are sometimes collectively referred to as customer premises equipment or "CPE" or "CPE devices.")

As further described below, the consent agreement contains a proposed order addressing allegations in the proposed complaint that (1) with regard to certain components used in CPE devices, Broadcom unlawfully maintained a monopoly and unreasonably restrained trade through exclusive dealing and related conduct, and (2) with regard to certain other components used in CPE devices, Broadcom unreasonably restrained trade through cross-product conditioning, all in violation of Section 5 of the Federal Trade Commission Act, 15 U.S.C. 45.

The proposed order has been placed on the public record for 30 days in order to receive comments from interested persons. Comments received during this period will become part of the public record. After 30 days, the Commission will again review the consent agreement and the comments received and will decide whether it should withdraw from the consent agreement and take appropriate action or make the proposed order final.

The purpose of this analysis is to facilitate public comment on the proposed order. It is not intended to constitute an official interpretation of the complaint, the consent agreement, or the proposed order, or to modify their terms in any way. The consent agreement is for settlement purposes only and does not constitute an admission by Broadcom that the law has been violated as alleged in the complaint or that the facts alleged in the complaint, other than jurisdictional facts, are true.

II. The Complaint

The complaint makes the following allegations.

A. Background

Consumers use STBs and broadband devices in their homes to access television and internet services. Service providers such as telecommunications and cable companies supplytheir customers with the CPE devices needed to access television and internet services.

Broadcom makes semiconductor components that are used in CPE devices. These include a "system on a chip" or "SOC," which is the core component directing the functions and features of a CPE device; a "front-end" chip, which converts incoming analog signals to digital signals to be read by the SOC; and a "Wi-Fi" chip, which enables a device to connect to a wireless network. Original equipment manufacturers ("OEMs") incorporate these components into STBs and broadband devices, which they typically build to service-provider specifications and sell to service providers.

Broadcom has long been the dominant supplier of (i) SOCs for traditional "broadcast" STBs,[1] (ii) SOCs for DSL broadband devices, and (iii) SOCs for fiber broadband devices (the "Monopolized Products"). In addition, Broadcom is one of few significant suppliers of (iv) Wi-Fi chips for CPE devices, (v) front-end chips for CPE devices, (vi) SOCs for "streaming" STBs, and (vii) SOCs for cable broadband devices (collectively, the "Related Products," and together with the Monopolized Products, the "Relevant Products").[2] Broadcom also provides essential ongoing engineering and software support services for devices containing its components. The markets for Monopolized Products and Related Products are concentrated and have significant barriers to entry and expansion.

As early as 2016, Broadcom recognized that it faced competitive threats to its monopoly power in Monopolized Products from low-priced, nascent rivals. Broadcom understood that nascent rivals could, by working with key OEMs and service providers, become stronger, more effective competitors. Leading service providers and OEMs were seeking to lessen their dependence on Broadcom and to foster competition in CPE component markets. These customers sought component-supplier diversity for multiple reasons, including to promote competitive pricing and to ensure continuity of supply. Another factor threatening Broadcom's monopoly power was the ongoing "cord-cutting" trend, whereby consumers were beginning to move away from traditional "broadcast" (*e.g.*, cable or satellite) television service and instead to access television and other video content via a "streaming" internet connection. This trend threatened Broadcom because its market position was stronger in "broadcast" STB SOCs (where it has monopoly power) than in "streaming" STB SOCs.

These market conditions presented Broadcom with the incentive and opportunity to engage in anticompetitive conduct aimed at maintaining its monopoly power in markets for Monopolized Products and to use that power to weaken rivals and harm competition in markets for Related Products.

[1] “Broadcast” STBs, sometimes referred to as “traditional” STBs, access television signals over a broadcast interface (*e.g.*, cable, satellite, or fiber), as distinct from “streaming” STBs, which access only streaming “internet protocol” (IP) signals, often over an internet connection.

[2] The proposed order refers to Monopolized Products and Related Products as “Primary Products” and “SecondaryProducts,” respectively.

B. Broadcom's Anticompetitive Conduct

Broadcom acted to maintain its monopoly positions and unreasonably restrain competition by implementing a wide-ranging exclusivity program in which it conditioned customers' access to Monopolized Products and support services for these products on commitments to source Relevant Products from Broadcom on an exclusive or near-exclusive basis. Broadcom implemented this exclusivity program through a series of long-term contractsentered with both OEMs and service providers, and through an accompanying campaign of ad hoc threats and retaliation. As a result, sales opportunities for Broadcom's rivals were severely restricted.

Between 2016 and the present, Broadcom negotiated and entered agreements with leading OEMs pursuant to which the OEMs agreed, for contract and renewal terms spanning multiple years, to purchase, use, or bid Broadcom's Relevant Products in STBs and broadband devices on an exclusive or near-exclusive basis. In all, Broadcom entered exclusive or near- exclusive agreements with at least ten OEMs which collectively are responsible for a majority of STB and broadband device sales worldwide and even higher percentages of STB and broadband device sales in the United States. These OEMs included the largest and most capable CPE OEMs—those with the largest market shares, the most extensive engineering and design capabilities, and the strongest reputations and relationships with downstream service provider customers.

Broadcom also negotiated and entered a series of agreements with major service providers pursuant to which the service providers committed, for contract terms spanning multiple years, to use Broadcom's Relevant Products on an exclusive or near-exclusive basis fortheir STBs and broadband devices. As with the OEMs targeted by Broadcom, these were among the largest, most advanced, and most innovative service providers in the world—those best positioned, absent their agreements with Broadcom, to enable Broadcom's nascent competitors.

In the course of securing and policing these long-term agreements, and also of obtaining exclusive or near-exclusive business from customers with which it did not enter formal long-term agreements, Broadcom routinely employed coercive leveraging tactics grounded in its monopoly power and spanning across product categories. For example, Broadcom communicated to OEM customers that disloyalty for even a single bid involving a single Relevant Product could mean loss of favorable price and non-price terms across numerous product lines, including Monopolized Products unrelated to that specific bid. And it communicated to service providers that if a service provider did not limit its purchases from Broadcom's rivals, Broadcom would implement large increases in the fees it charged for support services on devices containing Broadcom Monopolized Products already deployed on the service providers' networks.

C. Competitive Impact of Broadcom's Conduct

Broadcom's exclusivity program weakened competitors by foreclosing them from substantial portions of the markets for Relevant Products. It raised its rivals' costs by forcing rivals competing for a design award to be prepared to compensate customers for the penalties—increased prices and/or degraded terms—that Broadcom threatened to impose on the customer as to other designs and other covered products.

Broadcom's conduct deprived rivals of opportunities to work with key OEMs and service providers, thereby degrading rivals' ability to obtain scale and commercial validation, improve their engineering capabilities, offer better products to customers, and position themselves to win business in the future. As a result, rivals diverted resources away from, divested from, and/or considered exiting markets for Monopolized Products.

By foreclosing rivals from substantial sales opportunities other than through competition on the merits, Broadcom has maintained its monopoly in the markets for Monopolized Products and has unreasonably restrained competition in the markets for all Relevant Products, in each case harming price and non-price competition, reducing innovation, and reducing customer choice.

No legitimate procompetitive efficiencies justify Broadcom's conduct or outweigh the substantial anticompetitive effects thereof. Any legitimate objectives of Broadcom's conduct could have been achieved through significantly less restrictive means.

III. Legal Analysis

Section 5 of the FTC Act prohibits unfair methods of competition, including agreements in restraint of trade prohibited by Section 1 of the Sherman Act and monopolization prohibited by Section 2 of the Sherman Act.[3] Under Section 1, a

[3] 15 U.S.C. 45; *see, e.g.*, *FTC v. Cement Inst.*, 333 U.S. 683, 693–94 (1948).

plaintiff must show (1) concerted action that (2) unreasonably restrains competition.[4] A Section 2 monopolization offense requires proof of "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of superior product, business acumen or historic accident."[5]

A. Monopolization and Restraint of Trade as to Monopolized Products

An exclusive dealing arrangement is "an agreement in which a buyer agrees to purchase certain goods or services only from a particular seller for a certain period of time."[6] Exclusivity need not be expressly defined by a written contract, but can also be identified by "look[ing] past the terms of the contract to ascertain the relationship between the parties and the effect of the agreement in the real world."[7] No single contract needs to require 100% exclusivity.[8] The assessment must look beyond "formalistic distinctions" and focus on "market realities."[9]

Exclusive dealing may be unlawful where it enables a firm to maintain or enhance monopoly or market power by impairing the ability of rivals to grow into effective competitors or by depriving customers of the ability to make a meaningful choice.[10] Of particular relevance is whether exclusive dealing has "foreclose[d] competition in such a substantial share of the relevant market so as to adversely affect competition."[11] Exclusive dealing may violate Section 1 or Section 2 of the Sherman Act, but is "of special concern when imposed by a monopolist."[12] Thus, a Section 2 exclusive dealing claim typically requires a greater degree of market power, but a lesser degree of market foreclosure, than an exclusive dealing claim under Section 1.[13]

The factual allegations in the complaint support a finding of exclusive dealing

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[4] 15 U.S.C. 1; *see, e.g.*, *Arizona v. Maricopa County Med. Soc.*, 457 U.S. 332, 342–43, (1982).
[5] *In re McWane, Inc.*, No. 9351, 2014 WL 556261, at *11 (F.T.C. Jan. 30, 2014), *aff'd*, 783 F.3d 814 (11th Cir. 2015) (quoting *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966)); 15 U.S.C. 2.
[6] *ZF Meritor v. Eaton Corp.*, 696 F.3d 254, 270 (3d Cir. 2012).

as to the Monopolized Products in violation of Sections 1 and 2 of the Sherman Act. Broadcom has monopoly power in the sale of these products, as demonstrated by both direct and indirect evidence, including high shares of markets with significant entry barriers. And Broadcom has engaged in exclusive dealing with OEMs and service providers through both formal agreementsthat bar purchases of Monopolized Products from a Broadcom rival and ad hoc threats of retaliation if a customer purchases from a Broadcom rival. Broadcom's exclusive deals foreclosed substantial and competitively important portions of the markets for Monopolized Products, weakening rivals, harming competition, maintaining Broadcom's monopoly position, and resulting in reduced customer choice, higher prices, and less innovation in markets for Monopolized Products.

B. Restraint of Trade as to Related Products

In addition to harming competition in the markets for Monopolized Products, Broadcom leveraged its monopoly power in the markets for Monopolized Products to foreclose rivals and harm competition in the markets for Related Products. As it involves the interaction of two or more markets, the conduct is appropriately analyzed with reference to tying precedent. To demonstrate tying in violation of Section 1, a plaintiff must show (1) separate markets for the tying and tied products; (2) defendant's market power in the tying market; (3) the existence of a tie, and (4) that the arrangement forecloses a substantial volume of interstate commerce in the market for the tied product.[14] Coercion, or "the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms,"[15] is a key element in showing the existence of a tie, and can be shown using direct or circumstantial evidence.[16] Such coercion need not take the form of a threat to completely withhold the tying product; a tie may also exist where the seller offers the tying product on such terms that, under the circumstances, accepting the tying and tied products together is the only viable economic option for the buyer.[17]Finally, harm is particularly likely when the tied markets are concentrated and the tie results in substantial foreclosure in these markets.[18]

The factual allegations in the complaint support a finding of a violation of Section 1 of the Sherman Act as to the Related Products. Broadcom placed conditions on the supply and service terms associated with the Monopolized Products so as to coerce customers to source Related Products exclusively or nearly-exclusively from Broadcom. The cross-conditionality was employed in the negotiation and enforcement of relevant formal agreements and was alsopresent in Broadcom's ad hoc threats of retaliation. As with the Monopolized Products, Broadcom's conduct has foreclosed substantial and competitively important portions of the concentrated markets for Related Products, weakening rivals, harming competition, and resulting in reduced customer choice, higher prices, and less innovation in markets for Related Products.

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[7] *Id.* (cleaned up) (noting also that "de facto exclusive dealing claims are cognizable under the antitrust laws."); *see also Tampa Elec. Co. v. Nashville Coal Co.*, 365 U.S. 320, 326 (1961) (exclusive dealing principles apply not onlyto contracts that expressly require exclusivity, but also to those that have the "practical effect" of inducing a customer to purchase exclusively from a dominant seller).
[8] *ZF Meritor*, 696 F.3d at 270; *see also Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 466–67 (1992) ("Legal presumptions that rest on formalistic distinctions rather than actual market realities are generallydisfavored in antitrust law.").
[9] *Eastman Kodak*, 504 U.S. at 466.
[10] *See, e.g.*, *In re McWane*, 2014 WL 556261 at *19, 28.
[11] *ZF Meritor,* 696 F.3d at 270; *see also McWane*, 783 F.3d at 835.
[12] *ZF Meritor*, 696 F.3d at 271.
[13] *See, e.g.*, *United States v. Microsoft Corp.*, 253 F.3d 34, 69–70 (D.C. Cir. 2001).

IV. The Proposed Order

The proposed order seeks to remedy Broadcom's anticompetitive conduct through threeprimary prohibitions. A core concept of the order is what is termed a "majority share requirement," referring to a requirement that a customer purchase more than 50% of the customer's requirements of a given product come from Broadcom. First, the order prohibits Broadcom from entering into majority share requirements for any Monopolized Product. Second, the order prohibits Broadcom from conditioning access to Monopolized Products on a customer's agreeing to a majority share requirement for specified Related Products. Third, the order prohibits Broadcom from retaliating against a customer that refuses a prohibited majorityshare requirement or that purchases products from a competitor of Broadcom.

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[14] *See, e.g.*, *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 461-62 (1992) (quoting *N. Pac. R. Co. v. United States*, 356 U.S. 1, 5-6 (1958) and *Fortner Enters., Inc. v. United States Steel Corp*, 394 U.S. 495, 503(1969)); *United States v. Microsoft*, 253 F.3d 34, 85, 87 (D.C. Cir. 2001) ("[t]he core concern is that tying prevents goods from competing directly for consumer choice on their merits"); *Tic-X-Press v. Omni Promotions Co.*, 815 F.2d 1407, 1414 (11th Cir. 1987); *see also Viamedia, Inc. v. Comcast Corp.,* 951 F.3d 429, 468 (7th Cir. 2020); *In re Sandoz Pharms. Corp.*, 115 F.T.C. 625, 629–30 (1992).

[15] *Jefferson Par. Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 12 (1984).

[16] *See, e.g., Tic-X-Press*, 815 F.2d at 1418.

[17] *See, e.g.*, *United Shoe Mach. Corp. v. United States*, 258 U.S. 451, 464 (1922); *Viamedia*, 951 F.3d at 470–72.

[18] *See, e.g.*, Areeda & Hovenkamp, Antitrust Law ¶ 1729; *see also* Einer Elhauge, *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory,* 123 Harv. L. Rev. 397, 413 (2009).

Paragraph I of the proposed order defines the key terms used in the order.

Paragraph II.A. of the proposed order prohibits Broadcom from imposing a majority share requirement on a customer's purchases of any Monopolized Product. This provision is designed to end Broadcom's exclusive dealing practices in the markets for Monopolized Products and to enable the emergence of effective competition in those markets. The prohibition applies to sales of Monopolized Products to OEMs and to U.S. service providers. The proposed order specifically includes prohibitions on Broadcom (1) conditioning the sale of a Monopolized Product on a majority share requirement for that product, (2) conditioning price terms, or non-price terms such as delivery or support terms, for a Monopolized Product on a majority share requirement for that product, (3) conditioning other payments on a majority share requirement for a Monopolized Product, or (4) providing certain types of retroactive rebates for a Monopolized Product in exchange for a majority share requirement.

The prohibitions in Paragraph II.A. are qualified by a number of provisos designed to assure that the order does not bar Broadcom from competing on the merits. The first proviso clarifies that the order does not prohibit Broadcom from fulfilling orders from a customer that, over time, chooses to purchase more than 50% of its requirements from Broadcom, provided that such purchases are not pursuant to a majority share requirement prohibited by the order. The second proviso clarifies that a customer's mere designation of Broadcom as an "authorized"or "preferred" provider does not alone establish a violation of the order. The third proviso clarifies that the order does not prohibit non-retroactive volume discounts. The fourth proviso allows Broadcom, in narrow circumstances, to enter into a majority share requirement in connection with a particular request for proposal (RFP). The proviso provides that Broadcom may agree to a single-source term in connection with an RFP covering a single device model (ora single device model and certain limited derivatives thereof) if the customer structures the

RFP in this way. (In contrast, if a customer chooses to structure an RFP to split component supply for a particular device among multiple suppliers, Broadcom may not thwart this by insisting on exclusivity.) The fifth proviso enables Broadcom, in specified conditions, to agree to exclusivity terms with a customer to incent Broadcom to continue producing a product beyond its ordinary-course end of life.

Paragraph II.B of the proposed order prohibits Broadcom from using its monopoly power in a Monopolized Product to impose majority share requirements for other Monopolized Products or Related Products.

Paragraph II.C of the order prohibits Broadcom from retaliating against a customer for working with a Broadcom rival or for refusing to commit to or maintain a prohibited majority share requirement. Prohibited retaliation includes actual or threatened interference with the saleor delivery of Monopolized Products; withdrawal or modification of, or refusal to extend, relatively favorable price or non-price terms; or refusal to deal with the customer on terms generally available to other similarly situated customers.

The proposed order contains standard provisions designed to ensure compliance. Paragraph III requires Broadcom to maintain an antitrust compliance program and to provide notice to customers of the prohibitions contained in the order. Paragraphs IV through VI contain provisions regarding compliance reports, notice of changes in respondent, and access to documents and personnel.

The proposed Order’s prohibitions apply to agreements with Service Providers that serveend users in the United States and to agreements with OEMs worldwide, with the exception of agreements for the sale of products intended for use in devices for end users in China. These products are excluded from the prohibitions on majority share requirements in light of distinct competitive conditions applicable to them. The term of the proposed order is ten years.

By direction of the Commission.

Joel Christie,

Acting Secretary.

[FR Doc. 2021-16655 Filed: 8/6/2021 8:45 am; Publication Date: 8/9/2021]